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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,759	04/24/2001	Christopher J. Plummer	SUN1P802/P5257	6909

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EXAMINER

TANG, KUO LIANG J

ART UNIT	PAPER NUMBER
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2122

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/841,759

Applicant(s)

PLUMMER ET AL.

Examiner

Kuo-Liang J Tang

Art Unit

2122

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 9/2/2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 4/24/2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. This Office Action is in response to the amendment filed on 9/2/2004.

The priority date for this application is 06/12/2000.

Claims 1-16 are pending and have been examined.

***Response to Arguments***

2. Applicant's arguments with respect to claims 1-16 have been considered but they are not persuasive.

Claims 1-16 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Long US Patent No. 6,691,307 in view of Seshadri US Patent No. 6,658,421.

*In the remarks, the applicant argues that:*

As for independent claim 1, the Applicant primarily argues that Seshadri does not disclose or suggest a preloader. Seshadri's techniques are performed during compilation. (see RE page 9, lines 1-3).

**Examiner's response:**

The examiner disagrees with Applicant's assertion that Seshadri does not disclose or suggest a preloader and Seshadri's techniques are performed during compilation. In fact, Seshadri disclosed a preloader (E.g. see FIGURE 7, class loading step 181 and associated text). Seshadri's techniques are performed during run-time (E.g. see TABLE 2 at col. 12 and see col. 12:25-36 and col. 4:54 to col. 5:5). Assuming that Seshadri's techniques are during compilation,

the rejection is still valid because Claim 1 does not specifically recites that these two steps are performed during run-time.

### ***Drawings***

3. Figures 3-4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Long US Patent No. 6,691,307 in view of Seshadri US Patent No. 6,658,421.

As Per Claim 1, Long discloses a preloader (E.g. see FIG. 9A preloader 172 and associated text); a compiler (E.g. see FIG. 9A Runtime System 174 and associated text, e.g. see col. 7:22-33, compiled) coupled to the preloader arranged to accept the source file as input and produce an object file; and a virtual machine (E.g. see FIG. 5A through 9B, Runtime System and associated text, e.g. see col. 6:10-22, JVM) coupled to the compiler arranged to execute the object file.

Long does not explicitly disclose a preloader arranged to, determine whether a bytecode makes an active reference to a class which requires an execution of a static initializer, determine if the class has a superclass which requires the execution of the static initializer, wherein the preloader produces a source file. However, Seshadri in an analogous art teaches teaches “a preloader (E.g. see FIGURE 7, class loading step 181 and associated text) arranged to, determine whether a bytecode (E.g. see col. 4:56, invokestatic) makes an active reference to a class which requires an execution of a static initializer, determine if the class has a superclass (E.g. see col. 4:66 and col. 5:5) which requires the execution of the static initializer, wherein the preloader produces a source file.” (E.g. see TABLE 2 at col. 12 and see col. 12:25-36 and col. 4:54 to col. 5:5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Seshadri into the system of Long, for the preloader to produce a source file by determining a bytecode makes an active reference to a class or superclass. The modification would have been obvious because one of ordinary skill in the art would have been motivated so that during initialization at run time, the characterizing indicia in the metadata of the referring class is checked for correspondence with referent class metadata.

As Per claim 2, the rejection of claim 1 is incorporated and further Long teaches:

“wherein the preloader is further arranged to; rewrite the bytecode to a new bytecode which indicates that at least one of the class and the superclass requires execution of the static initializer when it is determined that the bytecode makes the active reference to the class which requires the execution of the static initializer.”. (E.g. see FIG. 9A preloader 172, Runtime System 174 and associated text, e.g. see col. 7:22-33, output form).

As Per claim 3, the rejection of claim 1 is incorporated and further Long teaches:

“wherein the preloader is further arranged to; rewrite the bytecode to a new bytecode which **explicitly** indicates that at least one of the class and the superclass requires execution of the static initializer when it is determined that the bytecode makes the active reference to the class which requires the execution of the static initializer.”. (E.g. see FIG. 9A preloader 172, Runtime System 174 and associated text, e.g. see col. 7:22-33, output form).

As Per claim 4, the rejection of claim 1 is incorporated and further the combination of Long and Seshadri teach:

“wherein the preloader is further arranged to; rewrite the bytecode to a new bytecode which indicates that at least one of the class and the superclass requires execution of the static initializer when it is determined that the bytecode makes the active reference to the class **which has the superclass** (E.g. see see Seshadri, col. 4:66 and col. 5:5 ) which requires the execution of the static initializer.” (E.g. see Long , FIG. 9A preloader 172, Runtime System 174 and associated text, e.g. see col. 7:22-33, output form).

As Per claim 5, the rejection of claim 1 is incorporated and further Long teaches:

“wherein the preloader is further arranged to; rewrite the bytecode to a new bytecode which **explicitly** indicates that at least one of the class and the superclass requires execution of the static initializer when it is determined that the bytecode makes the active reference to the class **which has the superclass** (E.g. see Seshadri, col. 4:66 and col. 5:5 ) which requires the execution of the static initializer.” (E.g. see Long , FIG. 9A preloader 172, Runtime System 174 and associated text, e.g. see col. 7:22-33, output form).

As Per Claim 6, Long discloses a bytecode rewriter (E.g. see FIG. 9A preloader 172 and associated text); a compiler (E.g. see FIG. 9A Runtime System 174 and associated text, e.g. see col. 7:22-33, compiled) arranged to accept source file as input and produce an object file; and a virtual machine (E.g. see FIG. 5A through 9B, Runtime System and associated text, e.g. see col. 6:10-22, JVM) arranged to execute the object file.

Long does not explicitly disclose a bytecode rewriter arranged to, determine whether a bytecode is associated with a scalar field or an object reference field,rewrite the bytecode to identify the bytecode as being associated with the scalar field when the bytecode is associated with the scalar field, rewrite the bytecode to identify the bytecode as being associated with the object reference field, wherein the bytecode rewriter is associated with producing a source file. However, Seshadri in an analogous art teaches teaches “a bytecode rewriter arranged to, determine whether a bytecode is associated with a scalar field or an object reference field,

rewrite the bytecode to identify the bytecode as being associated with the scalar field when the bytecode is associated with the scalar field, rewrite the bytecode to identify the bytecode as being associated with the object reference field, wherein the bytecode rewriter is associated with producing a source file.” (E.g. see TABLE 2 and see col. 4:54 to col. 5:5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Seshadri into the system of Long, for the bytecode rewriter to produce a source file by determining a reference field of bytecode. The modification would have been obvious because one of ordinary skill in the art would have been motivated so that during initialization at run time, the characterizing indicia in the metadata of the referring class is checked for correspondence with referent class metadata.

As Per Claim 7, is the system claim corresponding to the method claim 1 and is rejected under the same reason set forth in connection of the rejection of claim 1.

As per Claims 8-11, the rejection of claim 7 are incorporated and are rejected under the same reason set forth in connection of the rejection of claims 2-5 respectfully.

As Per Claim 12, is the computer program product claim corresponding to the method claim 1 and is rejected under the same reason set forth in connection of the rejection of claim 1.

As per Claims 13-16, the rejection of claim 12 are incorporated and are rejected under the same reason set forth in connection of the rejection of claims 2-5 respectfully.



***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Correspondence Information***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuo-Liang J Tang whose telephone number is (571) 272-3705. The examiner can normally be reached on 8:30AM - 7:00PM (Monday – Thursday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Kuo-Liang J. Tang*

Software Engineer Patent Examiner



JOHN CHAVIS  
PATENT EXAMINER  
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